

CLAIMS

1. Apparatus for authenticating the identity of a person, comprising:  
image processing means for determining an identification code from  
5 within an image and for determining face data of a face within the same image.
2. Apparatus according to claim 1, wherein the image processing means is  
operable to read said identification code from printed data within said image.
- 10 3. Apparatus according to claim 1 or 2, wherein the image processing means  
is operable to locate a tag within said image.
4. Apparatus according to claim 3, wherein the image processing means is  
operable to determine said identification code from said tag within said image.
- 15 5. Apparatus according to claim 3 or 4, wherein the image processing means  
is operable to locate said tag based on the location of the face within said image.
6. Apparatus according to any one of claims 3 to 5, wherein the image  
20 processing means is operable to determine said identification code from said tag  
when the tag is a specific area of any one of: paper, plastic, metal, fabric, an item  
of clothing and skin.
7. Apparatus according to any one of the preceding claims, wherein the  
25 image processing means is operable to locate said face from within said image.
8. Apparatus according to claim 7 when dependent on any one of claims 3 to  
6, wherein the image processing means is operable to locate said face based on the  
location of the tag within the image.
- 30 9. Apparatus according to any one of the preceding claims, wherein the  
image processing means is operable to extract facial features from said face.

10. Apparatus according to any one of the preceding claims, further comprising identification code comparator means for matching the determined identification code with a stored identification code in an identification code database.

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11. Apparatus according to any one of the preceding claims, further comprising face comparator means for matching the determined face data with stored face data in a face data database.

10 12. Apparatus according to claims 10 and 11, wherein the face data database comprises the identification code database.

13. Apparatus according to claim 12 or according to claims 10 and 11, wherein the face data database comprises the identification code database.

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14. Apparatus according to claim 12 or 13 or according to claims 10 and 11, wherein the face data in the face data database is associated with specific identification codes in the identification code database.

20 15. Apparatus according to claim 14, further comprising authentication means to confirm identity authentication when the face comparator means matches the determined face data with stored face data in the face data database and the identification code comparator means matches the determined identification code with the stored identification code associated with the matched stored face data.

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16. Apparatus according to any one of claims 10 and 12 to 15 or according to claim 11 when dependent on claim 10, further comprising stopping means for preventing determination of the face data if no match is made by the identification code comparator means.

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17. Apparatus according to any one of claims 11 to 15, further comprising stopping means for preventing determination of the identification code if no match is made by the face data comparator means.

18. Apparatus according to any one of the preceding claims, further comprising imaging means for providing said image to said image processing means.
- 5 19. A method of authenticating the identity of a person, comprising:  
determining an identification code from within an image; and  
determining face data of a face within the same image.
- 10 20. A method according to claim 19, wherein determining an identification code comprises reading said identification code from printed data within said image.
- 15 21. A method according to claim 19 or 20, further comprising locating a tag within said image.
22. A method according to claim 21, wherein determining an identification code comprises determining said identification code from said tag within said image.
- 20 23. A method according to claim 21 or 22, wherein locating a tag comprises locating said tag based on the location of the face within said image.
- 25 24. A method according to any one of claims 21 to 23, wherein determining an identification code comprises determining said identification code from said tag when the tag is a specific area of any one of: paper, plastic, metal, fabric, an item of clothing and skin.
- 30 25. A method according to any one of claims 21 to 24, wherein said tag is part of a garment worn by the person in the image.
26. A method according to any one of claims 19 to 25, further comprising locating said face from within said image.

27. A method according to claim 26 when dependent on any one of claims 21 to 25, wherein locating said face comprises locating said face based on the location of the tag within the image.
- 5 28. A method according to any one of claims 19 to 27, further comprising extracting facial features from said face.
- 10 29. A method according to any one of claims 19 to 28, further comprising matching the determined identification code with a stored identification code.
30. A method according to any one of claims 19 to 29, further comprising matching the determined face data with stored face data.
- 15 31. A method according to claim 29 and 30, wherein the stored face data is associated with specific stored identification codes.
- 20 32. A method according to claim 31, further comprising confirming identity authentication when the determined face data matches stored face data and the determined identification code matches the stored identification code associated with the matched stored face data.
- 25 33. A method according to any one of claims 29, 31 and 32 or according to claim 30 when dependent on claim 29, wherein determining the face data is not completed unless the determined identification code is matched with a stored identification code.
- 30 34. A method according to claim 33, wherein determining the face data is not started unless the determined identification code is matched with a stored identification code.

35. A method according to any one of claims 30 to 32, wherein determining the identification code is not completed unless the determined face data is matched with stored face data.
- 5 36. A method according to claim 35, wherein determining the identification code is not started unless the determined face data is matched with stored face data.
- 10 37. A method according to any one of claims 19 to 36, further comprising:  
generating said image; and  
providing said image for identification code determination and face data determination.
- 15 38. A computer program product having a computer usable medium having a computer readable program code means embodied therein for authenticating the identity of a person, comprising:  
computer readable program code image processing means for determining an identification code from within an image and for determining face data of a face within the same image.
- 20 39. A computer program product according to claim 38, wherein the image processing means is operable to read said identification code from printed data within said image.
- 25 40. A computer program product according to claim 38 or 39, wherein the image processing means is operable to locate a tag within said image.
- 30 41. A computer program product according to claim 40, wherein the image processing means is operable to determine said identification code from said tag within said image.

42. A computer program product according to claim 40 or 41, wherein the image processing means is operable to locate said tag based on the location of the face within said image.

5 43. A computer program product according to any one of claims 40 to 42, wherein the image processing means is operable to determine said identification code from said tag when the tag is a specific area of any one of: paper, plastic, metal, fabric, an item of clothing and skin.

10 44. A computer program product according to any one of claims 38 to 43, wherein the image processing means is operable to locate said face from within said image.

15 45. A computer program product according to claim 44 when dependent on any one of claims 40 to 43, wherein the image processing means is operable to locate said face based on the location of the tag within the image.

20 46. A computer program product according to any one of claims 38 to 45, wherein the image processing means is operable to extract facial features from said face.

25 47. A computer program product according to any one of claims 38 to 46, further comprising computer readable program code identification code comparator means for matching the determined identification code with a stored identification code in an identification code database.

30 48. A computer program product according to any one of claims 38 to 47, further comprising computer readable program code face comparator means for matching the determined face data with stored face data in a face data database.

49. A computer program product according to claims 47 and 48, wherein the face data in the face data database is associated with specific identification codes in the identification code database.

50.           A computer program product according to claim 49, further comprising  
computer readable program code authentication means to confirm identity  
authentication when the face comparator means matches the determined face data  
5 with stored face data in the face data database and the identification code  
comparator means matches the determined identification code with the stored  
identification code associated with the matched stored face data.

51.           A computer program product according to any one of claims 47, 49 and 50  
10 or according to claim 48 when dependent on claim 47, further comprising  
computer readable program code stopping means for preventing determination of  
the face data if no match is made by the identification code comparator means.

52.           A computer program product according to any one of claims 48 to 50,  
15 further comprising computer readable program code stopping means for  
preventing determination of the identification code if no match is made by the  
face data comparator means.

53.           A computer program product according to any one of claims 38 to 52,  
20 further comprising computer readable program code receiving means for receiving  
said image for processing by said image processing means.